JING Advanced Massage Training
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LIVING ANATOMY

ADVANCED CLINICAL MASSAGE CERTIFICATE

FOREWORD

LIVING ANATOMY

This hands-on short course will teach you the basic musculoskeletal functionality of the body and help get the knowledge out of the text book and into your hands. Through palpating and exploring the movement of the living body you will gain a thorough understanding of all the major muscles. It can either be taken as a stand alone module or as part of 2 exciting qualifications:

1. **Certificate in Advanced Clinical Massage**

2. **Professional Diploma in Advanced Clinical and Sports Massage (BTEC Level 6 – degree level)**

It will familiarise you with the names, location and actions of all the vital muscles and bones in the body and how to locate and palpate them. You will also gain a greater understanding of how muscles and bones create movement.

Other courses in this series for the effective treatment of pain include:

- Foundation Course in Advanced Clinical Massage
- Advanced Clinical Massage for Low Back Pain
- Advanced Clinical Massage for Neck and Shoulder Pain
- Advanced Clinical Massage for Shoulder Girdle Pain
- Advanced Clinical Massage for Carpal Tunnel Syndrome
- Advanced Clinical Massage for Leg Knee and Foot Pain
- Advanced Clinical Massage for Hip and Pelvis
- Advanced Clinical Massage Advanced Sports Stretching Techniques

Meghan and Rachel

IMPORTANT

Please note this course manual is designed to help you remember techniques taught on authorised Jing courses. It is not intended to be a substitute for hands-on teaching and **is not designed to be passed on to others who have not attended our courses.**

Most importantly, techniques taught on Jing courses are for your uses as a massage therapist and are **NOT INTENDED TO BE USED TO TRAIN OTHERS**. The methods and techniques we teach are drawn from a wide range of sources and of our experience of many years as teachers and practitioners in the massage industry. We would ask you to respect our work and dedication to you by not reproducing our methods and techniques in any other format to train others without asking our permission.

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About Jing

Welcome to Jing! We are delighted that you have chosen us to further your massage education and aim to give you the support that you need to facilitate your growth as a professional therapist. This letter outlines some of the services and support we offer as an organisation:

Your teaching and support team

Teachers: All our teachers have thorough knowledge of the techniques and theory taught on each course and go through an extensive teacher training programme to ensure the quality we expect. On every Jing course you will receive individual support to ensure you achieve the learning outcomes you desire. We understand that everyone learns in different ways and are happy to explain things in a million different ways until you "get it" in your hands, head and heart. If you don't understand anything, that is because we are not doing our job well enough as teachers - not because you are stupid!

Course supporters: On every course there will be between 1-3 "course supporters"- these are students who have done the course previously and are here to help out in practical ways such as setting the room up etc. If you have any individual learning needs they are also available to help you write, read or give practical assistance – for example with mobility issues. They are also available to act as "bodies" during practical work if you are unable to receive massage for any reason.

If you wish to be a course supporter on a future course please contact Nina in the office- this is an excellent way of reviewing course material for free.

Our office and administrative support team

Nina, our office and operational manager, is always available to help with any questions relating to other courses, payment and practical assistance such as accommodation and travel recommendations.

Your individual learning needs

If you have any specific learning needs PLEASE let us know. This might include for example:

- *Visual impairment*: We can provide large print manuals or make sure that you are always seated in an optimal position to view visual presentations.
- *Hearing impairment:* We will make sure that you are seated in the right place to hear or lip read and reduce any background noise as much as possible.
- *Physical or mental health problems*: Please contact us to discuss any specific requirements. If you need to sit out of either giving or receiving massage due to health issues we can arrange for a course supporter to take your place. We recognise that giving and receiving massage can often bring up emotional issues so we aim for the teaching space to be a safe place for this to happen without interfering with your learning
- *Other learning issues*: If you need someone to take notes for you we can arrange for a course supporter to be a scribe. If you need to record lectures please let us know. Please do let us know of any requirements that you are aware of. Many of our students have learning difficulties such as dyslexia and function very well within the supportive learning environment we provide. Please don't feel alone – we are here to help

Other support offered through Jing

Jing network

Our support of our students extends beyond the classroom and the Jing community extends throughout the UK and some parts of Europe. We encourage you to get in touch with other "Jingers" in your area so you can exchange treatments and study together. Those of you on the Jing certificate or diploma programme will be encouraged to form local study groups for mutual support.

Jing online chat group

Once you have done a Jing course you are eligible to join our online chat group where you can put out questions about anything to do with massage or your practice. This is an invaluable resource for massage therapists who often feel isolated in their work. The group consists of several hundred people who have done Jing courses and consists of massage therapists, physio's, Pilates teachers, chiropractors and osteopaths.

Instructions for joining the online chat group

1. Go to http://groups.yahoo.com/ (or google "yahoo groups")
2. In the top left corner search for "advanced massage" – this should take you to a number of advanced massage groups. Choose the one entitled "advanced_massage" with a description "For graduates of any of the Jing Advanced Massage and Myofascial Release Workshop series, UK"
3. If you do not have a yahoo email address you will need to create one. Please note info@ addresses do not work
4. Your request will then be sent to the moderators of the group who will approve your membership request within 1-2 weeks.
5. You will then be sent an email approving your request. YOU NEED TO FOLLOW THE INSTRUCTIONS and click on the link for your membership to be activated.
6. Once you join the group you can choose to receive the emails singly (not recommended as you will have a lot of emails cluttering your inbox every day, as a daily digest (all emails for day in grouped together in one email) or just for you to check on the web when you need to.
7. By going to the yahoo home page for the group you can also join the free database of therapists and see resources that other therapists have uploaded such as photos or intake forms.

Course supporting, help at Trade Shows or other volunteer opportunities

You are always welcome to come and course support any course you have attended as a student. This is an excellent way to review course material and get more involved in the Jing community.

If you enjoy being part of Jing come and help us at the trade shows we do throughout the year. This is a lot of fun and a great way to meet other Jing students. We may also have other volunteer opportunities available if you would like to get more involved.

Good Body Mechanics in Massage Therapy

Using good body mechanics while you work not only helps you to avoid injury but enables you to use more sensitive and powerful touch. Good body mechanics require:

- A strong energetic connection with the ground through your feet, legs and hara (belly).
- Your hara should usually be pointed in the direction of your work. Imagine your hara as a strong light that shines where you are working.
- Never bend your back to carry out a move. Lunge forward in tai chi stance or kneel down if necessary.
- Use your body weight not muscular strength to work deeper. Always remember "lean don't press".
- Breathe into your hara. Always find the quiet part within yourself by re-connecting with the breath.

Massage Stance

Your body should mainly be in one of the 4 stances below. Using a massage stance should be a dynamic dance and you may flow from one to the other depending on what is best for your body at that time.

- **Forward Tai Chi Stance:** Similar to a lunge. Particularly useful for effleurage based strokes. Weight can transfer between the front and back leg to give power.

- **Horse Stance:** Feet hip width apart and legs bent. Make sure knees roll outwards (laterally) rather than inwards (medially) to prevent strain.

- **Kneeling Tai Chi Stance:** This can be used to maintain good body mechanics when you need to be at a lower level than standing would allow.

- **Seated:** Have legs wide apart and both feet firmly connected to the ground. Make sure your own spine is not slumped.

JING ADVANCED MASSAGE LIVING ANATOMY COURSE

Anatomical Position

- Used as a reference point, anatomical position is when the body is standing erect with palms facing forward.

Planes of movement

The body can be divided into 3 imaginary planes which help clarify movements.

- *Sagittal plane:* divides body into left and right parts. Midsagittal plane runs down centre of body dividing body into 2 symmetrical halves.
- *Frontal or coronal plane:* Divides the body into front and back portions.
- *Transverse or horizontal plane:* Divides the body into upper and lower halves.

Directions and Position

- *Superior:* a structure closer to the head
- *Inferior:* a structure closer to the feet.
- *Posterior/Dorsal:* towards the back of the body
- *Anterior/Ventral:* towards the front of the body
- *Medial*: Closer to the midline
- *Lateral:* Further away from the midline
- *Distal:* Further away from a limb's origin or the body's midline
- *Proximal*: closer ro a limb's origin.
- *Superficial:* Closer to the body's surface
- *Deep:* Deeper in the body

Terms of movement

- Flexion: A movement that brings the bones closer together; decreases the angle at a joint; occurs in the sagittal plane. Usually brings a body part forward from anatomical position (except for the knee)

- Extension: A movement that straightens or opens a joint; increases the angle of a joint; occurs in the sagittal plane; brings a body part backwards from anatomical position (except for knee).

- Abduction: Moves a limb laterally away from the midline. Occurs on frontal plane. Only pertains to appendages. NB: to abduct the fingers is to spread them apart.

- Adduction: Moves a limb medially toward the body's midline. Occurs on frontal plane. Pertains only to appendages. NB: To adduct the fingers is to bring them together

- Rotation: Pertains only to head and vertebral column. Occurs on transverse plane.

- Lateral flexion: Occurs at neck and trunk ie: when head or vertebral column bend laterally to the side.

- Protraction and retraction: pertain to scapula, clavicle, head and jaw only. Protraction is moving one of these structures anteriorly. Retraction is movement posteriorly.

- Elevation and depression refer to movement of the scapula and jaw. Elevation is movement superiorly. Depression is movement inferiorly.

- Medial/internal rotation: Occurs at shoulder and hip joints. Limb turns in towards midline. Occurs on transverse plane.

- Lateral/External rotation: Occurs at shoulder and hip joint. Swings limb away from midline. Occurs on transverse plane.

- Circumduction: At shoulder and hip joints. Combination of extension, adduction, flexion and abduction. Together the actions form a cone shaped movement ie: swimming backstroke.

- Pronation: Takes place when the radius crosses over the ulna turning the palm down ("prone to spill it")

- Supination: Occurs when radius and ulna lie parallell to each other ("carrying a bowl of soup") ie: palms up.

- Plantar flexion and dorsiflexion: refer only to ankle. Plantar flexion: bending the ankle to point your foot into the earth ("planting "your foot). Dorsi flexion points toes to sky ("dor-sky flexion")

- Inversion/Eversion: occur at feet. Inversion brings sole of foot medially. Eversion moves the sole laterally.

Neck and Shoulder / Shoulder Girdle

Trapezius: Prone: Ask your client to bring shoulder blades down and together to outline shape of muscle.
Upper fibres: Grasp the superficial tissue on the top of the shoulder and have your partner elevate the scapula toward the ear. Follow the fibres superiorly toward the base of the occiput and inferiorly to the lateral clavicle.
Middle fibres: locate spine of scapula; slide medially to locate middle trapezius. Ask partner to adduct shoulder blades to feel muscle action.
Lower fibres: ask partner to bring shoulder blades inferiorly (towards feet) to feel muscle action.

Rhomboids (Major and Minor): Prone: Locate medial border of scapula and spinous processes of C7 (one that sticks out) to T5 . The muscle is deep to trapezius and fibres run at an oblique angle.
Muscle action: Ask parter to bring shoulder blades together as in a military stance.

Levator scapulae: Prone: Palpating through trapezius locate superior angle of scapula. You will be able to feel the ropy like texture of the attachment of the levator scapulae just off the superior angle. Follow the fibres superiorly as they extend up the lateral side of the neck to the Transverse processes of the cervical vertebrae.
Muscle action: Ask partner to alternately elevate and relax scapula.

Sternocleidomastoid: Supine: Ask partner to turn head to side then raise head slightly off table against your resistance (hand on cheek). Palpate along the borders; follow the SCM up to the mastoid process at the base of the ear and the attachment points on the sternum and clavicle.
To feel muscle action: Grasp muscle and ask partner to rotate to opposite side or laterally flex to same side.

Scalenes: Supine: Lay fingertips between SCM and trapezius. Palpate the stringy superficial muscle bellies of scalenes.
Muscle action: Ask partner to take deep breath into chest. Can also feel unilateral action if ask partner to laterally flex neck or rotate head and neck to opposite side.

Pectoralis major: Supine: Grasp the belly of the pectoralis by sinking the thumb into the axilla. Follow the fibres up to the attachment point on the humerus.
Muscle action: Ask your partner to put her hands together and push against them.

Pectoralis minor: Supine: Kneel on floor. Place your clients arm over their head and gently slide fingers under the pectoralis major with fingers pointing toward the ribcage. Follow the surface of the ribs and eventually you will come into contact with the pectoralis minor.
Muscle Action: Ask your partner to slightly press shoulder down towards the hip.

Deltoids: Seated: locate the spine of the scapula, the acromion and the lateral one third of the clavicle (ie: grasp top of shoulder with "C" shaped grip). Follow fibres down to where they converge at the deltoid tuberosity (small bump approx one third of way down humerus)
Muscle action: Ask partner to alternately abduct and release arm.

Rotator Cuff muscles
These can be remembered by the mnemonic SITS; their actions by the cheerleader shout "AB-EX-EX-IN"

Supraspinatus (S) - AB
Infraspinatus (I) - EX
Teres Minor (T) - EX
Subscapularis (S) - IN

Supraspinatus: Prone: Locate the spine of the scapula. Slide your fingers above onto the supraspinous fossa. Palpate through the trapezius to locate the supraspinatus. Follow the belly laterally and medially.
Muscle action: Have partner alternate between abducting slightly and relaxing the shoulder. You should feel the supraspinatus tighten and soften underneath the inactive trapezius.

Infraspinatus: Prone with forearm off table. Locate spine of scapula and medial and lateral border. Palpate in the triangle formed by these landmarks. Follow the fibres laterally as they converge into the deltoid to attach to the humerus.
Muscle action: Ask partner to externally rotate shoulder ("raise back of hand toward ceiling") then relax.

Teres Minor: Prone with forearm off table. Locate lateral border of scapula then move up to superior half. Slide laterally off lateral border onto surface of teres minor. Reach into the armpit and grasp belly of teres minor.
Muscle Action: Ask partner to externally rotate shoulder (raise back of hand toward celiling)

Teres Major: Partner prone with arm off table. Lay your thumb on the inferior aspect of the lateral border of the scapula.
Muscle action: Have your partner medially rotate the shoulder joint ("bring your palm toward the ceiling")

Distinguishing between teres minor and teres major: Place hand on surfaces of teres major (inferior aspect of lateral border of scapula) and teres minor (superior aspect of lateral border of scapula). Ask your partner to alternately medially and laterally rotate arm. The teres major will contract while the teres minor softens on internal rotation and vice versa for external rotation.

Latissimus Dorsi: Prone with arm off side of table. Grasp the thick wad of muscle in the posterior armpit.
Muscle action: Ask your partner to medially rotate against your resistance ("swing your hand toward the hip")

Teres Major
Latissimus Dorsi

- Note the teres major and latissimus dorsi muscles have same actions. Be clear about the difference between teres minor (external rotator and part of rotator cuff group) and teres major (internal rotator).To remember the origin on the scapula you could remember that miners are superior to majors!
- Both muscles insert on the anterior side of the humerus at the biccipital groove. The latissimus dorsi insertion lies between the pectoralis major and teres major ("lady lies between 2 majors")

Arm

Triceps: Prone; arm off table. Go down from posterior deltoid to palpate triceps. Follow it down to the elbow.
Muscle action: Ask partner to extend elbow or shoulder against your resistance

Biceps: Supine. Bend elbow and shake hands with partner.
Muscle action: ask partner to flex his elbow against your resistance. Palpate the belly of the biceps and follow it down to the inner elbow where it becomoes a solid distinct tendon. Follow the biceps proximally to where it tucks underneath the anterior deltoid.

Wrist flexors

The wrist flexors are all found on the anterior (non hairy) side of the forearm and include the following muscles:

Superficial layer:
Flexor carpi radialis
Palmaris longus
Flexor carpi ulnaris

Intermediate layer: Flexor digitorum superficialis

***Deep layer*:**
Flexor digitorum profundus
Flexor pollicus longus

You can usually work out the actions of the muscles from their names (carpi – wrist; pollicis- thumb; brevis – short; profundus - deep)

Palpation of wrist flexors as a group

- Most of wrist flexors have a common attachment point at the medial epicondyle of the humerus. This is the prominent bump on the medial side of the elbow crease
- Partner seated. Flex the elbow to 90 degrees and shake hands with your partner. Ask your partner to alternately flex and relax the wrist against your resistance
- Follow the bellies of the muscles from their attachment point at the medial epicondyle down to the stringy distal tendons at the wrist.

Wrist extensors
These include:

Ext.carpi ulnaris
Ext carpi radialis longus
Ext carpi radialis brevis
Ext digitorum

Palpation of wrist extensors as a group

- Wrist extensors have a common origin at lateral epicondyle of humerus (prominent bump at the lateral side of the elbow crease)
- Shake hands with partner and flex elbow to 90 degrees. Ask partner to alternately extend and relax the wrist against resistance. Palpate the mass of the extensors on the hairy side of the forearm.

Brachioradialis

- Shake hands with partner and flex the elbow to 90 degrees.
- With forearm in neutral position (thumb toward ceiling) ask your partner to flex the elbow against your resistance. The brachioradialis will bulge out on the lateral side of the elbow.
- Pinch between the fingers and follow proximally and distally to attachments.

Back and Pelvic Girdle

Erector Spinae: Iliocostalis; longissimus; spinalis
Memory Aid: "I love spaghetti"

- Partner prone: Lay both hands along either side of lumbar vertebrae.
- Ask your partner to extend spine as in doing a slight yoga "cobra" then relax
- Palpate the ropy fibres of the erectors moving inferiorly to the sacrum and superiorly to the thoracic vertebrae. See if you can distinguish the outer edge.
- Note the most ropy of the muscles is the longissimus.

Quadratus Lumborum

- Partner prone: locate the 12th rib and iliac crest. Lay your fingertips along the lateral edge of this square, pressing underneath the erector spinae
- Use slow firm pressure to sink into the edge of the quadratus.
- Muscle action: ask your partner to elevate the hip to the shoulder to feel its contraction.

Gluteus maximus

- Prone: Lay the flat of your hand on the 'meat' of the buttocks. Ask your partner to extend the hip against your resistance ("raise your leg to the ceiling")
- Palpate the fibres which run from the iliac crest and edge of the sacrum to the femur. Note the textural differences between the adipose tissue of the buttock and the muscle fibres of the maximus. The adipose is superficial and has a soft gel like consistency.

Piriformis

- Prone: Locate the greater trochanter, PSIS and coccyx (tailbone). Together these landmarks form a "T". The piriformis is located along the base of the "T"
- With your fingers on the piriformis bend the knee to 90 degrees and rotate the leg back and forth. You will feel the piriformis move under your fingers. If your partner laterally rotates the leg against your resistance you will feel the muscle contract.

Gluteus medius

- Sidelying: Lay the webbing of your hand along the iliac crest while the other hand locates the greater trochanter (bump on outside of femur). Your hands will form the pie shaped outline of the gluteus medius.
- Ask your partner to slightly abduct her thigh against your resistance to outline the muscle.

Ilio-tibial band

- Sidelying: Explore the tough superficial fibres of the IT band on the lateral side of the leg.
- Ask your partner to alternately abduct and relax hip.

Psoas

- Supine: Hip flexed (knee up). Place your fingertips just lateral to the abdominal muscles and between the ASIS and the navel. Slowly compress your fingerpads into abdomen using an anti-clockwise rotational movement to displace the intestines out of the way. Keep your fingertips at a 45 degree angle.
- When you contact the psoas ask your partner to flex the hip slightly (bring your thigh toward your head) to feel the muscle contract.
- Take care to proceed with "listening touch" as the psoas can be tender. If you feel a pulsing underneath your fingers, move laterally as this is the abdominal aorta.

Legs

Adductor group: adductor magnus; adductor brevis; adductor longus; gracilis; pectineus

- Palpating the **5** adductor muscles as a group: Supine: hip flexed and laterally rotated. (like Fig 4) Place your hand along the medial thigh and ask your partner to adduct her hip against your resistance to feel the muscles tighten.
- Most prominent tendon is adductor longus which slowly angles into medial thigh.
- Gracilis is slender and continues down medial leg toward knee.

Quadriceps group: Rectus femoris, vastus medialis, vastus lateralis, vastus intermedius

- The **4** quadriceps muscles converge to a single tendon above the knee.
- Palpation as a group: Seated: lay the flat of your hand on the anterior surface of the thigh.
- Ask your partner to alternately extend and relax the knee slowly. You can also apply resistance below the knee for a greater contraction.

Hamstrings: biceps femoris; semi tendinosus, semi membranosus

- All **3** hamstrings have a common origin at the ischial tuberosity.
- Memory aid: semi-**M**embranosus inserts on medial side of knee with its rhyming family member semi-tendinosus, whilst biceps femoris inserts on the lateral side of the knee
- Palpation of hamstrings as a group: Partner prone. Place hand on posterior thigh between the buttocks and the knee. Ask partner to flex knee against your resistance to outline the muscle (bring the knee to the buttocks).
- Palpate from large solid tendon at ischial tuberosity to the stringy tendons at the posterior knee.

Gastrocnemius and Soleus

- Standing: Ask your partner to stand on their toes.
- Palpate the posterior leg following the muscles distally as they blend into the calcaneal tendon (Archilles tendon)

Distinguishing Gastrocnemius from Soleus

- Prone: Bend knee to 90 degrees which inactivates the gastrocnemius.
- Isolate the soleus by asking your partner to gently plantar flex against your resistance (point your toes to the ceiling)

Tibialis anterior

- Supine: Place your fingers on the large superficial mass of the tibialis anterior which lies lateral to the shaft of the tibia.
- Ask your partner to alternately dorsiflex and relax the ankle ("raise your foot and toes to the sky")

Define the following terms

Anatomical Position

Planes of movement

Median Plane

Sagittal Plane

Coronal/Frontal Plane

Transverse/Horizontal Plane

Terms of Movement

Flexion

Extension

Abduction

Adduction

Rotation

Lateral Flexion

Protraction

Retraction

Elevation

Depression

Internal/Medial Rotation

External/Lateral Rotation

Circumduction

Pronation

Supination

Plantar flexion

Dorsi flexion

Inversion

Eversion